

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Shinya MATSUOKA
Serial No. 08/841,397
Filing Date: April 30, 1997
Examiner: Khanh Q. Dinh
Art Unit: 2151
Confirmation No.: 3144
Title: SPATIALIZED AUDIO IN A THREE-DIMENSIONAL,
COMPUTER-BASED SCENE

Mail Stop AF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

The following Pre-Appeal Brief Request for Review ("Request") is being filed in accordance with the provisions set forth in the Official Gazette Notice of July 12, 2005 ("OG Notice"). Pursuant to the OG Notice, this Request is being filed concurrently with a Notice of Appeal. Applicant respectfully requests reconsideration of the application in light of the remarks set forth below.

REMARKS

In a Final Office Action mailed May 8, 2007 (the “Final Office Action”) Claims 1, 3-5, 7, 9, 11, 12, 13, 17, 18, 20-22, 24, and 45-49 were rejected under 35 U.S.C. § 103(a). Applicant requests a finding that these rejections are improper and allowance of all pending claims.

Claim Rejections under 35 U.S.C. § 103

Claims 1, 3-5, 7, 9, 11, 12, 13, 17, 18, 20-22, 24, and 45-49 were rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent No. 5,710,591 to Bruno et al. (*Bruno*) in view of “Virtual Gain for Audio Windows,” IEEE 1993 by Cohen et al. (*Cohen*). Applicant respectfully traverses these rejections.

Claim 1 is directed to an audio conference server with means operable to manage at least one audio conference among a plurality of audio clients. Specifically, the audio conference server has means operable to receive real-time audio data from audio clients; mix the real-time audio data and stored audio data (associated with at least one point source) into spatialized audio data; and deliver the spatialized audio data to one or more of the plurality of audio clients. Similar to Claim 1, Claims 9, 17, 18, 45, 46, 47, and 48 include limitations generally directed to mixing real-time audio data and stored audio data associated with at least one point source into spatialized audio data. Neither *Bruno* nor *Cohen*, alone or in combination, disclose, teach, or suggest each of these limitations.

For example, Claim 1 includes the limitations, “mixing means operable to mix the real-time audio data and stored audio data associated with at least one point source into spatialized audio data.” The Examiner admits that *Bruno* does not teach these limitations but instead contends that *Cohen* discloses “mixing means for mixing said real time audio data and store [sic] audio data associated with at least one point audio source.” See Office Action, page 3. As support for the rejection of Claim 1, the Examiner points to sections of *Cohen* which recite, “[t]he general idea is to permit multiple simultaneous audio sources, such as in a teleconference to coexist in a modifiable display” See Office Action, page 3 (citing *Cohen*, page 85, § 0.1). Applicant respectfully contends that *Cohen* does not support the Examiner’s rejection because a system which merely “permit[s] multiple simultaneous audio sources, such as in a teleconference to coexist in a modifiable display” does not disclose “an

audio conference server with means operable to . . . mix . . . real-time audio data and stored audio data” as recited by Claim 1. For reasons similar to those stated above with respect to Claim 1, Applicant further contends that Claims 9, 17, 18, 45, 46, 47, and 48 and all of their dependent claims are in condition for allowance.

Moreover, Claim 1 recites, “distance-based attenuation according to a plurality of predetermined sound decay functions, each sound decay function being associated with a respective one of the plurality of audio clients or the at least one point source.” Applicant respectfully submits that neither *Bruno* nor *Cohen*, alone or in combination discloses, teaches, or suggests, “a plurality of predetermined sound decay functions, each . . . being associated with a respective one of the plurality of audio clients or the at least one point source.” The Examiner contends that *Cohen* discloses these limitations and points to sections of *Cohen* that recite a single distance-dependent gain as support for the rejection of Claim 1. *See Cohen*, § 1.2. Applicant respectfully submits that a single distance-dependent gain function does not disclose, teach, or suggest “a plurality of predetermined sound decay functions, each . . . being associated with a respective one of the plurality of audio clients or the at least one point source” as required by Claim 1. Accordingly, Applicant respectfully requests that the rejection of Claim 1 be withdrawn.

Similar to Claim 1, Claims 9, 18, 45, and 47 also include limitations generally directed to a plurality of predetermined sound decay functions, each being associated with a respective one of the plurality of audio clients or the at least one point source. For reasons similar to those discussed with respect to Claim 1, Applicant requests that the rejections of Claims 9, 18, 45, and 47 and all of their dependent claims be withdrawn.

Claim 6 recites, in part, “distance-based attenuation according to a plurality of predetermined sound decay functions, each sound decay function being associated with a respective audio client and a respective volume/distance relationship.” Applicant respectfully submits that neither *Bruno* nor *Cohen*, alone or in combination discloses, teaches, or suggests these limitations. The Examiner rejects Claim 6 by pointing to sections of *Cohen* which recite, a single distance-dependent gain that “achieves a predetermined falloff across the room” according to the function: $\text{Gain} = m/(\text{distance} + c)$ “where distance is between (the lower left corners of) the source and the sink, and m and c are . . . functions of the sizes of the icons and the virtual room as well as the falloff.” *See Cohen*, § 1.2. However, a single, distance-dependent gain that depends “the sizes of the icons and the virtual room” does not

disclose “a plurality of predetermined sound decay functions, each sound decay function being associated with a respective audio client and a respective volume/distance relationship.” Accordingly, Applicant respectfully contends that Claim 6 is in condition for allowance.

Claim 7 recites, in part, “identifying a decay function from one of a plurality of predefined decay functions . . . the plurality of the predefined decay functions including an audio big decay function, an audio small decay function, an audio medium decay function and a constant decay function.” Applicant respectfully submits that neither *Bruno* nor *Cohen*, alone or in combination discloses, teaches, or suggests these limitations. The Examiner rejects Claim 7 by pointing to sections of *Cohen* which recite, a single distance-dependent gain that “achieves a predetermined falloff across the room” according to the function: $\text{Gain} = m/(\text{distance} + c)$ “where distance is between (the lower left corners of) the source and the sink, and m and c are determined at runtime, functions of the sizes of the icons and the virtual room as well as the falloff.” *See Cohen*, § 1.2. However, a single, distance-dependent gain that depends on “the sizes of the icons and the virtual room” does not disclose a “plurality of the predefined decay functions including an audio big decay function, an audio small decay function, an audio medium decay function and a constant decay function.” Accordingly, Applicant respectfully contends that Claim 7 and all of its dependent claims are in condition for allowance.

Similar to Claim 7, Claims 17, 24, 46 and 48 also include limitations generally directed to identifying a decay function from one of a plurality of pre-defined decay functions wherein the plurality of the predefined decay functions includes an audio big decay function, an audio small decay function, an audio medium decay function and a constant decay function. For reasons similar to those discussed with respect to Claim 7, Applicant respectfully contends that Claims 17, 24, 46, and 48 are in condition for allowance.

The Examiner further rejects Claims 6, 14-16, and 23 unpatentable over *Bruno* in view of *Cohen*, and in further view of US Pat. No. 5,764,750 to Chau et al. (“*Chau*”). Applicant respectfully contends that the deficiencies of *Bruno* and *Cohen* with respect to Claims 6, 14-16, and 23 are not accounted for by the teachings of *Chau*, further contend that all claims are in condition for allowance.

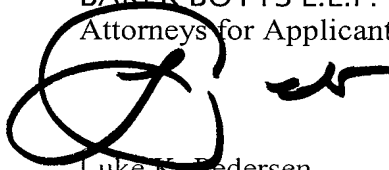
CONCLUSION

As the rejections of Claims 1, 3-5, 7, 9, 11, 12, 13, 17, 18, 20-22, 24, and 45-49 contain clear legal and factual deficiencies, Applicant respectfully requests that the rejections of these claims be withdrawn and that Claims 1, 3-5, 7, 9, 11, 12, 13, 17, 18, 20-22, 24, and 45-49 be allowed. To the extent necessary, the Commissioner is hereby authorized to charge any required fees or credit any overpayments to Deposit Account No. **02-0384** of **Baker Botts L.L.P.**

Respectfully submitted,

BAKER BOTTS L.L.P.

Attorneys for Applicants

A large, stylized handwritten signature in black ink, appearing to be 'L. Pedersen', is written over the printed name.

Luke K. Pedersen

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